REMARKS/ARGUMENTS

Claims 1-4, 6-15, 17-26, 28-37 and 39-50 are currently pending in this application. Reconsideration and further examination are respectfully requested.

Claim Rejections – 35 U.S.C. § 103

Claims 1-6, 8, 12-14, 16-17, 19, 23-28, 30, 34-36, 38-39, 41, 45-46 and 47-50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. (U.S. Pat. No. 6,219,374) in view of Felgentreff et al. (U.S. Pub. No. 2002/0131522) and Sung et al. (U.S. Pat. No. 7,149,199). Also, claims 1-10, 23-32, 47 and 49 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wiberg et al. (U.S. Pub. No. 2002/0172264) in view of Felgentreff and Sung. Also, claims 1-6, 8-10, 23-28 and 30-32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Proctor, Jr. et al. (U.S. Pub. No. 2003/0035466) in view of Sung. To establish a prima facie case of obviousness, certain criteria must be met. One such criterion requires the prior art reference or references, when combined, to teach or suggest all the claim limitations. With the above requirements in mind, Applicant has amended the independent claims and presents the following arguments.

Applicant has amended independent claim 1 to include the limitation from dependent claim 5. With respect to amended independent claim 1, Applicant respectfully submits that Kim, Wiberg, Proctor, Felgentreff and Sung, individually and in combination, fail to teach or suggest at least one claim limitation, for example, the limitation regarding "wherein the processing subsystem is configured to cover different portions of an initial data stream, each portion comprising an I/Q pair of modulated symbols and each portion being of a different quantity of modulated symbols, to be transmitted on a first wireless communication channel with at least two different-length spreading codes such that each spreading code covers each I/Q pair."

Amended independent claim 1 recites, in part, "an initial data stream ... to be transmitted on a first wireless communication channel with at least two different-length spreading codes." On page 4 of the office action, for dependent claim 5, the Examiner states "Kim further discloses the spreading codes are different-length spreading codes (figure 1, col. 3, lines 26-49; where it is well known in the art that different spreading factors means different code lengths)." Applicant asserts that Kim does not teach or suggest transmitting an initial data stream on a first wireless communication channel with at least two different-length spreading codes.

Amended independent claim 1 recites a single wireless communication channel that utilizes at least two different-length spreading codes. Applicant directs the Examiner to FIG. 4 and paragraphs [0012], [0013] and [0039] of the present application. The specification of the present application discloses traffic channels that utilize Walsh codes and corresponding portions of the available Walsh space and at least one of the traffic channels utilize two or more different-length Walsh codes. *See para. [0012].* The portions of the traffic channel data covered by the different Walsh codes are then combined and transmitted via the same CDMA communication channel. *See para. [0012].* The references cited by the Examiner do not teach or suggest utilizing different-length spreading codes for a single wireless communication channel.

Kim does not teach or suggest "an initial data stream ... to be transmitted on a first wireless communication channel with at least two different-length spreading codes." Kim discloses the I and Q channels are quadrature-spreaded by different Walsh codes but does not teach or suggest different-length spreading codes as recited in amended independent claim 1. *See col. 3, line 67 to col. 4, line 2.* The spreading codes disclosed in Kim are all of the same length. Having different spreading codes vs. having different-length spreading codes are different

concepts. Kim does not mention anything about having different-length spreading codes. In fact, the designation of the Walsh codes W^I and W^Q in Kim fail to indicate a length implying that the Walsh codes are of the same length. *See col. 3, line 35 to col. 3, line 61.* Hence, nowhere in Kim is there an indication that "an initial data stream ... to be transmitted on a first wireless communication channel with at least two different-length spreading codes." Rather, Kim utilizes Walsh spreading codes that are of the same length.

Wiberg does not teach or suggest "an initial data stream ... to be transmitted on a first wireless communication channel with at least two different-length spreading codes." Wiberg discloses that the initial data is spread with an orthogonal Walsh code at a selected bit rate or chip rate, split into the Inphase (I) and Quadrature (Q) branches, and prior to baseband filtering, spread with long Pseudo-Noise (PN) sequences at the selected chip rate. *See paragraph [0044].* According to Wiberg, the spreading applies a spreading sequence, using channelization codes (825A,870A,875A), a primary scrambling code (810A), and possibly "tilt" sequences (815A,820A), to the data sequences (830A,835A,840A,845A), which increases the data rate while adding redundancy to the system. *See paragraph [0044].* Wiberg discloses that the initial data is spread with an orthogonal Walsh code at a selected bit rate or chip rate but does not teach or suggest different-length spreading codes as recited in amended independent claim 1. Wiberg does not mention anything about having different-length spreading codes. Hence, nowhere in Wiberg is there an indication that "an initial data stream ... to be transmitted on a first wireless communication channel with at least two different-length spreading codes." Rather, Wiberg utilizes Walsh spreading codes that are of the same length.

Proctor does not teach or suggest "an initial data stream ... to be transmitted on a first wireless communication channel with at least two different-length spreading codes." Proctor discloses a second step in the process is to apply an orthogonal code such as generated by the Walsh code generator 413. *See paragraph [0049].* This is accomplished by the multipliers 412-i and 412-q impressing the orthogonal code on each of the in-phase and quadrature signal paths. *See paragraph [0049].* According to Proctor, the orthogonal code assigned to each logical channel is different, and uniquely identifies such channels. *See paragraph [0049].* Proctor discloses each code being different but does not teach or suggest different-length spreading codes as recited in amended independent claim 1. Proctor does not mention anything about having different-length spreading codes. Hence, nowhere in Proctor is there an indication that "an initial data stream ... to be transmitted on a first wireless communication channel with at least two different-length spreading codes." Rather, Proctor utilizes Walsh spreading codes that are of the same length.

Felgentreff fails to remedy the deficiencies of Kim, Wiberg and Proctor. Felgentreff discloses a method for linearizing a digitally generated transmit signal with combined digital predistortion linearization and frequency response compensation linearization. *See para. [0001].* Felgentreff does not disclose spreading codes or Walsh spreading codes. Hence, Felgentreff does not teach or suggest "an initial data stream ... to be transmitted on a first wireless communication channel with at least two different-length spreading codes."

Sung fails to remedy the deficiencies of Kim, Wiberg and Proctor. Sung discloses in FIG. 4i that the primary communication station allocates a fixed orthogonal code symbol on each channel at the time of a call establishment, and at the time of a call completion, reallocates the

released orthogonal code symbol to one of other secondary communication stations where a new call is being requested. *See col. 6, lines 26-31.* Hence, all data symbols within a frame are spread by the same orthogonal code symbol. *See col. 6, lines 31-32.* The spreading codes disclosed in Sung are all of the same length. Sung does not mention anything about having different-length spreading codes. Hence, Sung does not teach or suggest "an initial data stream ... to be transmitted on a first wireless communication channel with at least two different-length spreading codes."

For at least the reasons stated above, Applicant respectfully requests that the rejection of Claim 1 under 35 U.S.C. § 103(a) be withdrawn. Claim 1 is novel, non-obvious and patentably distinguishable over Kim, Wiberg, Proctor, Felgentreff and Sung, individually and in combination, and should be allowable.

Independent claims 12, 23, 34, 45-50 include similar features as claim 1 and therefore should also be allowable for similar reasons.

Regarding the dependent claims, they depend from one of the independent claims 1, 12, 23, 34 and 45-50, which are believed to be patentable, and thus these dependent claims should also be novel, non-obvious and patentably distinguishable over Kim, Wiberg, Proctor, Felgentreff and Sung, individually and in combination.

CONCLUSION

In light of the amendments and remarks contained herein, Applicant submits that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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